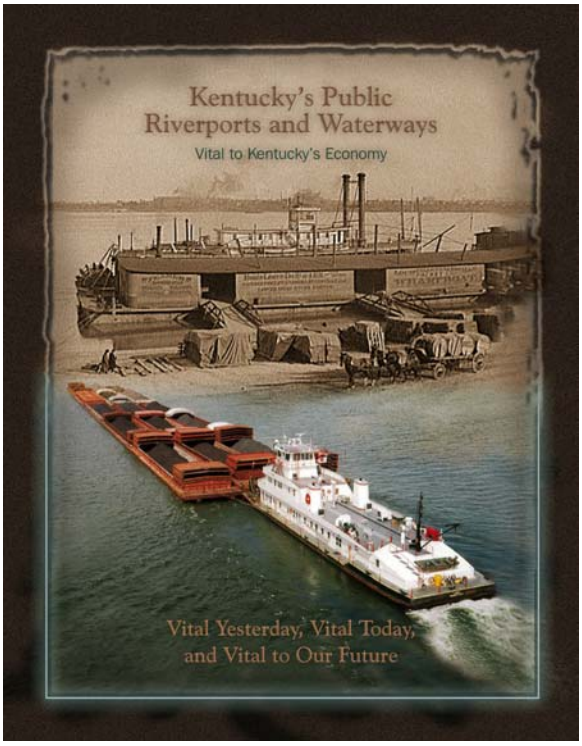
Chapter 1: Introduction

This technical summary supports and expands upon the informational brochure entitled: *"Kentucky's Public Riverports and Waterways – Vital to Kentucky's Economy"* pictured to the right. The underlying purpose of the brochure and study effort is to address the need for state support and funding of public riverports in Kentucky. In doing so, the central study objectives are to document:

- The importance of water transportation to Kentucky
- The role played by public ports versus private terminals
- Associated economic and tax impacts related to water transportation and the ports, and
- The need to upgrade and promote public ports and related intermodal facilities.

A number of resources were utilized in producing the technical summary and informational brochure. These are highlighted in Appendix A.



"Kentucky's Public Riverports and Waterways – Vital to Kentucky's Economy" Brochure Cover

Chapter 2: Kentucky's Water Transportation System

Kentucky has one of the most extensive and strategically located waterway systems in the country. Kentucky's navigable waterways include eight rivers that span 1,070 miles. These 1,070 miles of commercially navigable waterways are the most of any state in the lower 48 states.

Currently, loading and/or off-loading facilities are provided at:

- Over 160 private terminals, most of them specialized and dedicated for private use;
- Six (6) existing public riverport authorities, which are open to all shippers for general cargo services;
- One public riverport authority that generates its economic development funding through a special arrangement with a private rail company; and
- Four new public riverport authorities that were formed in the last four years and are working to develop an operational loading/unloading terminal.

Kentucky's transportation system is presented in Exhibit 2.1 on the following page. Shown are Kentucky's navigable rivers, truck network, rail system, commercial airports, public riverport facilities, and locks and dams.

2.1. Kentucky's Navigable Waterways

Kentucky's 1,070 miles of navigable waterways represent nearly ten percent of the 11,000-mile national inland waterway system. The Ohio River is by far the largest component of the Commonwealth's eight-river waterway system, as its 664 Kentucky miles comprise 62 percent of the total state system. The Green River with 109 miles is second. The other waterways are the Kentucky (82 miles), Cumberland (75 miles), Tennessee (62 miles), Mississippi (49 miles), Big Sandy (22 miles) and Licking (7 miles) Rivers.

2.2. Environmental and Energy Impacts

Water transportation is considered the most fuel-efficient and environmentally friendly mode of transportation. Exhibit 2.2 shows the approximate distance that one gallon of fuel can move one ton of cargo. The energy efficiency of water transportation results in less air pollution since fewer hydrocarbons, less carbon monoxide, and fewer oxides of nitrogen are introduced into the atmosphere. The use of barge transport can also reduce the need for increased highway and rail facilities, thus, avoiding the environmental impacts that could result from their construction.

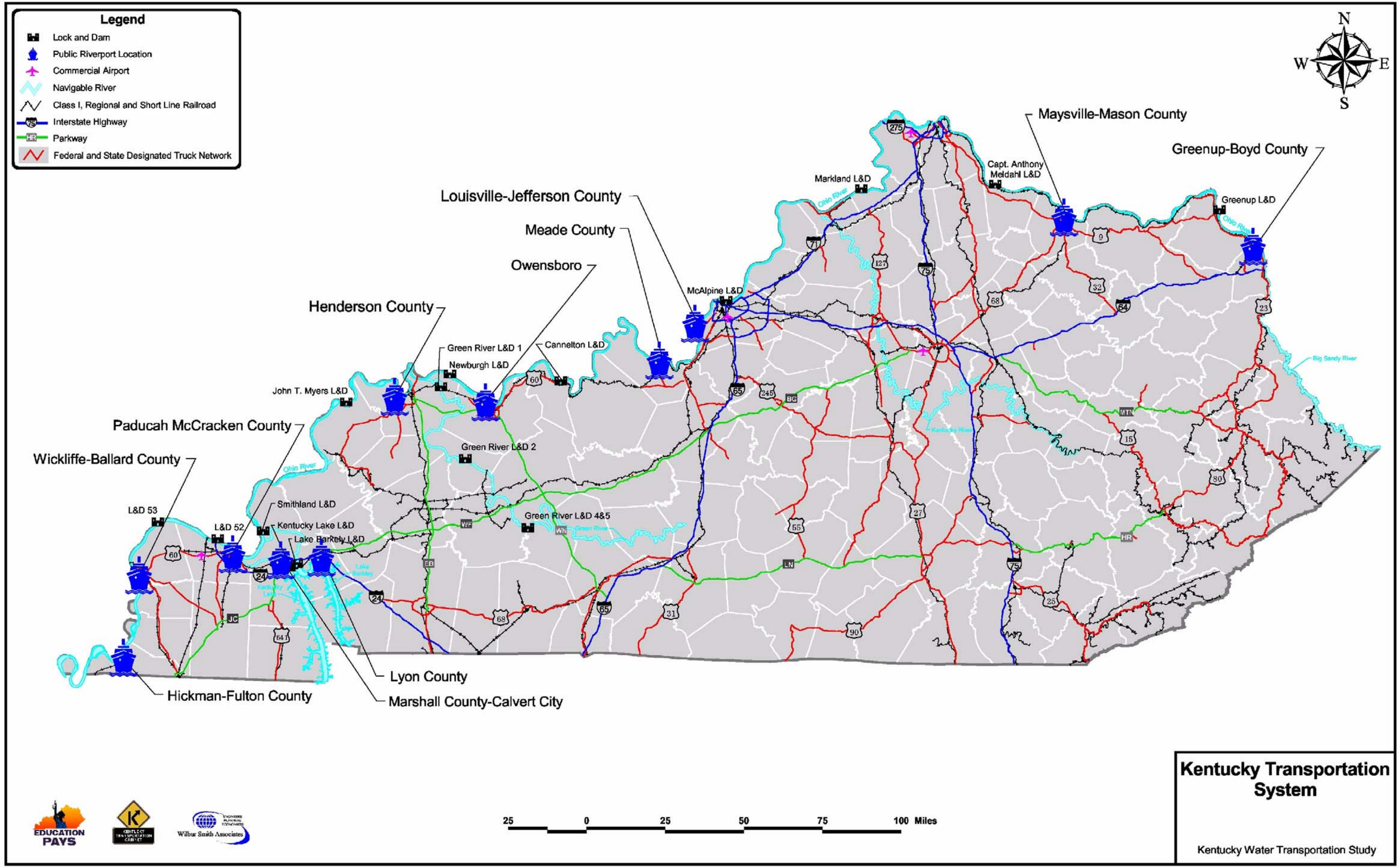
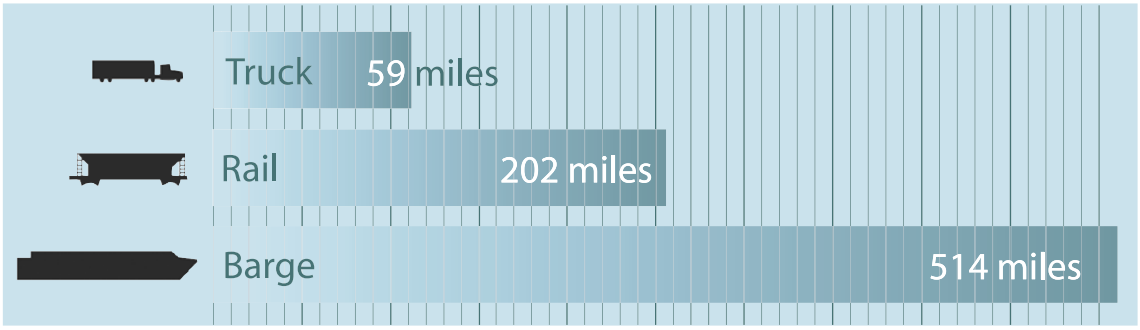

Legend
Lock and Dam
Public Riverport Location
Commercial Airport
Navigable River
Class I, Regional and Short Line Railroad
Interstate Highway
Parkway
Federal and State Designated Truck Network
N
W
E
S
Maysville-Mason County
Greenup-Boyd County
Capt. Anthony Meldahl L&D
Markland L&D
Greenup L&D
Louisville-Jefferson County
Meade County
Owensboro
Henderson County
McAlpine L&D
Green River L&D 1
Newburgh L&D
Cannelton L&D
John T. Myers L&D
Paducah McCracken County
Wickliffe-Ballard County
Green River L&D 2
Smithland L&D
L&D 53
L&D 52
Kentucky Lake L&D
Lake Barkley L&D
Green River L&D 4&5
Lyon County
Marshall County-Calvert City
Hickman-Fulton County
Ohio River
Big Sandy River
Kentucky River
Green River
Lake Barkley
Kentucky Lake
25 0 25 50 75 100 Miles
EDUCATION PAYS
Wilbur Smith Associates
Kentucky Transportation System
Kentucky Water Transportation Study

Exhibit 2.1

Exhibit 2.2
Tonnage Transport Distance per Gallon by Mode



2.3. Public Riverports

While the specialized nature of private terminals results in their accommodation of a vast majority of Kentucky's waterborne freight tonnage, public riverports have been created by the state to fulfill a broader economic development mission. This mission not only requires more diverse port facilities and the handling of more diverse cargo types than private terminals, but it also requires support and encouragement for the development of associated businesses and industries that can take advantage of the riverport's amenities.

The following seven public riverports have been operation in Kentucky for more than 20 years:

- Henderson County Riverport Authority (1970)
- Hickman-Fulton County Riverport (1964)
- Louisville and Jefferson County Riverport International (1965)
- Lyon County Riverport Authority (1976)
- Maysville-Mason County Riverport Authority (1978)
- Owensboro Riverport Authority (1966)
- Paducah-McCracken County Riverport (1964)

Since Calendar Year 2000, four new public riverport authorities have been created, but they currently do not have any associated facilities. These are as follows:

- Marshall County-Calvert City Riverport (2003)
- Meade County Riverport (2001)
- Port Authority of Greenup and Boyd Counties (2001)
- Wickliffe-Ballard County Riverport Authority (2003)

Kentucky's riverports play many roles, some of which are more important at one port than another. All ports provide access to water transportation with facilities and equipment to effect the landside-water transfer. General cargo facilities exist at all but one of Kentucky's fully operational public riverports, including special facilities to handle various bulk commodities. However, the size, capacity and adequacy of these facilities vary widely.

Six of the seven ports also act as industrial development sites. The size of this effort also varies, with developed industrial properties ranging from approximately a hundred acres at one location to another industrial park with over 1,200 acres. In some cases, the water-related transportation opportunity has been instrumental in locating industry, but, in many, the industries do not use the inland waterway system, and locate in port parks/properties for other reasons.

Some of the riverports are also engaged in other business activities, both on- and off-site, which sometimes go beyond their basic roles. However, such activities are related to the port's main purpose and are undertaken due to special circumstances and provide supplemental revenues. One of the most common of these activities is providing both open and closed temporary storage facilities for outside users.

The existing markets of the pubic riverports consist primarily of commodities traditionally associated with inland waterway transportation – coal, coke, sand, aggregates, fertilizers and other bulk materials, mixed with general cargos such as metals and metal products/byproducts. Potential traffic falls into the same general categories. A previous study in 1999 concluded that (1) the port's customers often are not located in Kentucky and/or (2) neither the origin or destination of the shipment are located in Kentucky, rather the ports are strategically located to effect modal shifts and facilitate interstate transportation. Recent telephone interviews with riverport authority representatives confirmed that this is still true today.

Because of their unique ability to handle diverse products, Kentucky's public riverports have become active participants in the global economy. Waterway shipments to and from Kentucky offer convenient, low-cost access at two major ocean transport gateways at New Orleans and Mobile on the Gulf Coast. As a result, Kentucky shipments currently travel to and from Canada, China, Korea, Russia, Malaysia, and many other locations in South America, Europe, Asia, Africa, and Australia.

Following is some basic information on facilities and operations at each of Kentucky's seven fully-operational public riverports, as well as a brief status report on development activities for each of the four recently designated public riverport authorities.

Henderson County Riverport

- Location: Henderson, Kentucky, Ohio River Mile 807.8
- Facilities: Site of 395 acres, including 276-acre industrial park. The operating port has a 90-foot wharf, 42,000 square feet of open dock space, 42,000 square feet of warehouse and office space. Almost 2.5 miles of track provide on-site rail service. The port is located above the 100-year flood plain at 380.1 feet above sea level. The industrial park is home to 11 industries with 90 acres available for future development. In addition, the riverport has 190 acres under option to expand the industrial park to a total of 466 acres.

- Tonnage and Commodities

The port's throughput has ranged between 370,000 and 800,000 tons annually in recent years. The vast majority of the tonnage is comprised of coal and petroleum products shipments. Inbound products account for 39 percent of all commodities handled while outbound products make up 61 percent. Inbound movements are predominantly from barge to truck, while outbound movements are mostly rail to barge. Commodities are received from several worldwide locations including South America, Australia, Europe, Africa, Malaysia, Canada, Texas, Pennsylvania and several locations throughout Kentucky. Typical destinations include China, Korea, New Louisiana, Texas, Missouri, Ohio, Arkansas, and several locations throughout Kentucky.

Hickman-Fulton County Riverport

- Location

Hickman, Kentucky, Mississippi River Mile 922

- Facilities

Site of approximately 15 acres on Obion Creek. The facility includes two warehouses, one 9,000 square feet and the other 18,000 square feet. A new 4,000 square feet office was added in 2002. Other features include a grain transportation system (conveyor), railcar unloading pit with elevator and conveyor, a short one-vehicle loading ramp and a new cargo dock. The new cargo dock includes a 22-foot wide approach bridge, 3,000 square foot staging area and a 125 ton capacity pedestal mounted crane.

- Tonnage and Commodities

The port handles both bulk and break-bulk commodities including: grain, fertilizers, coke, wire rod and small amounts of other commodities. Grain has consistently comprised the largest portion of the total tonnage followed by wire rod. Grain is shipped outbound; therefore, the majority of the tonnage is outbound. Annual tonnage has increased in recent years to a current average tonnage of 325,000 tons per year. Major customers include a number of local companies, others from Kentucky and Tennessee and a few from California, Texas and New York.

Louisville and Jefferson County Riverport International

- Location

Louisville, Kentucky, Ohio River Mile 618

- Facilities

The Riverport facility is comprised of 2,000 acres, most of which is devoted to the Riverport Industrial Park. 250 acres of industrial property remains to be developed. Waterfront facilities consist of two components – a general

cargo dock with overhead crane and a bulk rail conveyor-served dock. The rail facility consists of a multi-track loop and a bottom-dump shaker house for unloading unit trains. Up to 60 barges can be accommodated in the port's fleeting areas.

- Tonnage and Commodities: The general cargo dock handles predominantly inbound coal and petroleum products. Other commodities include: steel coils, stainless scrap, ferrochrome, and various minerals and ores. Annual tonnage has decreased in recent years to an average of 490,000 tons annually. Commodities originate worldwide including: Far East, Europe, Africa, South America, Western United States, Midwestern United States and neighboring states.

Lyon County Riverport

- Location: Eddyville, Kentucky, Cumberland River Mile 43.6
- Facilities: The port is located on a 117-acre site. Facilities include a grain terminal with truck dump and 70,000 bushels of storage capacity. Fertilizer and limestone facilities also provide storage and barge loading capabilities. A 50-foot x 100-foot concrete dock is available for off-loading, as is a 150-ton crane. Truck scales of 80-ton capacity are on-site.
- Tonnage and Commodities: Annual port tonnage in the last few years has averaged around 250,000 tons. The principal commodity is grain followed by fertilizers.

Owensboro Riverport

- Location: Owensboro, Kentucky, Ohio River Mile 759
- Facilities: The port is located on approximately 300 acres of property, 225 of which is an industrial park. The port has nine barge slips, rail access, 160,000 square feet of on- and off-site warehouse space, 70 acres of open storage, 2 cranes of 110-ton capacity – one crawler and one floating. In addition, the facility has 14,200 tons of domed bulk storage, 15,000-bushel-per hour grain loading facilities and 653,000 bushels of grain storage capacity.
- Tonnage and Commodities: Total tonnage handled at the port for the 12 months ending June 2003 was 1.276 million. Of that total, approximately 695,000 tons moved by water. The major commodity was styrene followed by aluminum and grain. The majority of the shipments are outbound.

Commodities are shipped and received worldwide and serve the needs of almost 20 companies within the region.

Paducah-McCracken County Riverport

- Location: Paducah, Kentucky, Tennessee River Mile 1.3 to 2.1
- Facilities: The port occupies 48 acres and has three dock facilities with a 25,000-square foot dockside staging area served by a 20-ton tower crane. The facility has 2,300 feet of river frontage. Operations are supported by warehouse capability for 14,000 tons of bulk commodities and 100,000 square feet of ground cargo space. 27 acres are available for open storage. Bulk materials can be handled with a 150-ton crawler crane, a three-quarter-mile-long conveyor system with three radial stackers and a 500-ton per-hour capacity. The port also has facilities to package products, and a liquid cargo tank facility permits barge-to-rail and barge-to-truck transfers. A grain elevator capable of handling unit trains is leased to a private operator.
- Tonnage and Commodities: The port's throughput last year was 942,000 tons. The vast majority (80%) of the tonnage is comprised of bulk shipments (sand, limestone, fertilizer, coke and light weight aggregates). The facility receives and ships products worldwide. For example, "rebar" is received internationally and distributed throughout Western Tennessee and Kentucky. Other general cargo is destined to Europe, including some shipments to Russia. In terms of bulk commodities, domestic and international shipments of fertilizer are received and distributed to Hopkinsville. Coke is received from domestic sources and from Canada and distributed regionally.

Maysville-Mason County Riverport Authority

- Location: Maysville, Kentucky, Ohio River
- Facilities: The Maysville-Mason County Riverport Authority, comprised of a Board of Directors, do not directly operate a port facility, but instead assist in the financing of a private river terminal maintained and operated by Transkentucky Transportation Railroad (TTI). As a result of the initial financial assistance, the Authority receives a per ton "royalty" from the railroad for each ton of commodity handled. The Authority is considering using some of this income to fund an update of their master plan.

- Tonnage and Commodities — The major commodity handled at the facility is coal. Over the past five years, the TTI River Terminal has handled approximately 1.43 million annual tons and the trend has been declining.

Marshall County-Calvert City Riverport Authority

- Location — Calvert City, Kentucky, Tennessee River
- Facilities — The Marshall County-Calvert City Riverport Authority has established a Board of Directors and has selected a site for riverport development holding an option on the site. They recently received funding from the Delta Regional Commission to develop a site master plan. Calvert City will provide utilities to the site and have, most recently, awarded a bid to run water line to the property.

Meade County Riverport Authority

- Location — Brandenburg, Kentucky, Ohio River
- Facilities — The Meade County Riverport Authority has established a Board of Directors and acquired a site just east of Brandenburg. They have developed a business plan and received Federal grants for the development of a master plan, preliminary engineering and environmental analysis, and other ongoing site development activities.

Greenup-Boyd Counties Riverport Authority

- Location — Russell, Kentucky, Ohio River
- Facilities — The Port Authority of Greenup and Boyd Counties established a Board of Directors approximately four years ago. They are working with the county for industrial development on a site near an existing privately-owned river terminal in Russell. Since late 2003, the private river terminal operator has been undergoing financial difficulties. Nevertheless, loading/off-loading services are still available to the public riverport site. However, this relationship is fragile and may not continue. The Riverport Authority is pursuing acquisition of additional development property via a foreclosure sale, and they are exploring the possibility of creating a new terminal facility in lieu of continuing private terminal service.

Wickliffe-Ballard County Riverport Authority

- Location: Wickliffe, Kentucky, Ohio River
- Facilities: The Wickliffe-Ballard County Riverport Authority has established a Board of Directors. The City of Wickliffe owns a small tract of land currently being leased by a private firm that uses the land to service/repair barges. The Riverport Authority has an option on adjacent property to use in combination with the City of Wickliffe property for a transloading facility. They are currently seeking state funds for future development activities through their local state representative.

Chapter 3: Waterborne Freight Movements in Kentucky

Waterborne freight movements comprise a significant share of total freight movements in Kentucky. In this section, total tonnage volume moved by water is compared to the other major modes, followed by a detailed analysis of what commodities are moving in and out of Kentucky riverports and what share is handled by public riverports versus private terminals.

3.1. Total Freight Movements

Analysis of year 2002 freight flows was conducted of the Transearch Database, as obtained from Reebie Associates. The data provides summary movements by location of origin and destination for each major commodity type. Commodity types are based on the 2-digit Standard Transportation Commodity Code (STCC) designation. Locations in Kentucky are based on county of origin and destination in Kentucky, and locations outside of Kentucky include neighboring states (Missouri, Illinois, Indiana, Ohio, West Virginia, Virginia and Tennessee), and regions (Southeast, South, Midwest, etc.).

In 2002, a total of 548.9 million tons of freight moved into, out of, or within Kentucky. By mode, the 107.0 million tons moved by water comprises nearly 20% of total freight movements as seen in Exhibit 3.1. These movements tend to be long distance moves (i.e., over 450 miles).

Exhibit 3.1
Freight Tonnage by Direction and Mode
2002

Mode	Outbound	Inbound	Total	*Percent*
Truck	140,517,847	137,173,383	277,691,230	*50.6%*
Rail	117,698,409	45,332,169	163,030,578	*29.7%*
Air	825,711	256,188	1,081,899	*0.2%*
Water	66,148,903	40,813,029	106,961,932	*19.5%*
Total	325,190,870	223,574,769	548,765,639	*100.0%*

3.2. Waterborne Freight Movements

Waterborne freight was analyzed by direction and commodity in the year 2002. Comparison with the previous 1999 study indicates a notable rise in freight flow, especially in outbound volume. Waterborne freight to/from Kentucky has origins and destinations from the northeast (Pennsylvania, New York) all the way down the Mississippi River to New Orleans. These volumes and flows are discussed below.

Movements by Direction and Commodity – Of the 107.0 million tons of waterborne freight through Kentucky ports in 2002, 66.1 million tons (61.8%) were outbound and 40.8 million tons (38.2%) were inbound. Coal shipments of 45.4 million tons (42.5%) and earth materials of 36.0 million tons (33.6%) dominate commodity shipments. As seen in Exhibit 3.2, the next largest

commodity in terms of tonnage is petroleum products with 6.0 million tons (5.6%). The greater share of outbound coal and earth materials is typically loaded via private terminals.

Exhibit 3.2
Waterborne Freight Shipments by Direction
2002

Commodity	Outbound	Inbound	Total	*Percent*
Chemical Products	396,708	1,629,742	2,026,450	*1.9%*
Coal	29,531,005	15,878,828	45,409,833	*42.5%*
Earth Materials (Non-metallic Minerals)	26,890,888	9,096,956	35,987,844	*33.6%*
Food & Farm Products	2,213,580	363,627	2,577,207	*2.4%*
Petroleum Products	1,876,706	4,144,506	6,021,212	*5.6%*
Clay, Concrete, Glass Or Stone	1,311,288	405,781	1,717,069	*1.6%*
Metallic Ores	524,678	1,201,258	1,725,936	*1.6%*
Other	3,404,050	8,092,331	11,496,381	*10.7%*
Total Tonnage Movements	66,148,903	40,813,029	106,961,932	*100.0%*

Movement Trends – Since the previous 1999 study (which reported year 1997 volumes) total waterborne freight shipments in Kentucky grew 5.9% from 101.0 to 107.0 million tons. Most of the additional 6.0 million tons were outbound shipments, as seen in Exhibit 3.3.

Exhibit 3.3
Change in Waterborne Freight Shipments (Tons - 000's)

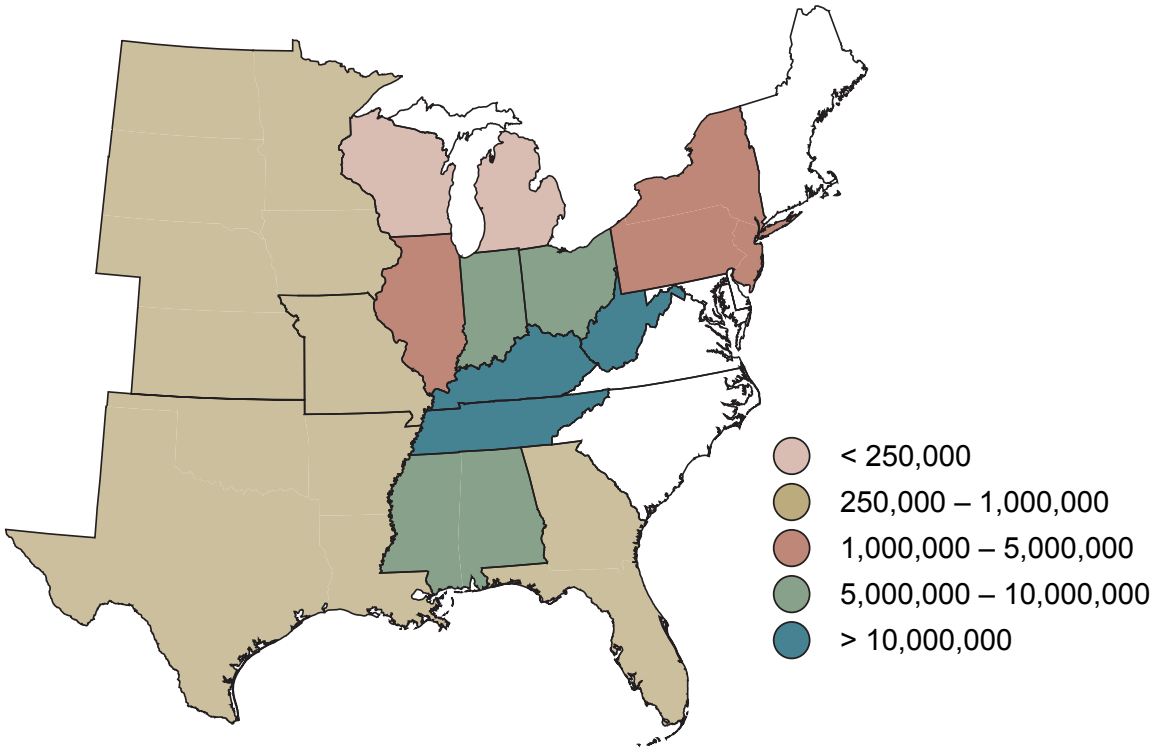
			Change	
Direction	1997	2002	Tons	Percent
Inbound	40,792	40,813	21	0.1%
Outbound	60,217	66,149	5,932	9.9%
Total	101,009	106,962	5,953	5.9%

Movements by Location – In 2001, almost 240 Kentucky manufacturing facilities, terminals, and docks shipped and/or received freight tonnage. Waterborne freight movements from Kentucky were shipped to 17 states, with some bound for export by water throughout the world via New Orleans and Mobile. States receiving the most tonnage were Tennessee, Louisiana, Ohio, Alabama, and Indiana. Commodities were received from 15 states, including imports that pass through Gulf Coast terminals. States shipping the most tonnage to Kentucky included West Virginia, Louisiana, Illinois, Indiana, and Pennsylvania. Internal state movements also comprised a large share of Kentucky's waterborne movements. These shipment volumes are listed in Exhibit 3.4 and charted in Exhibit 3.5.

Exhibit 3.4
Waterborne Freight Shipments by Direction and State/Region (Tons)
2002

State/Region	Inbound	Outbound	Total
Kentucky	12,590,002	12,590,002	25,180,004
Illinois	2,392,093	706,454	3,098,547
Indiana	3,106,733	2,679,720	5,786,453
Missouri	390,669	171,059	561,728
Ohio	1,424,427	7,298,326	8,722,753
Tennessee	665,414	17,905,058	18,570,472
West Virginia	11,514,692	2,273,962	13,788,654
Middle Atlantic	761,963	1,987,791	2,749,754
Michigan-Wisconsin	0	17,019	17,019
West North Central	174,754	462,510	637,264
Florida-Georgia	0	489,474	489,474
Alabama-Mississippi	343,664	7,896,749	8,240,413
West South Central	7,430,833	10,250,913	17,681,746
Canada	17,785	1,419,866	1,437,651
Total	40,813,029	66,148,903	106,961,932

Exhibit 3.5
Total Freight (tons) Received and Exported
2001



Public Ports Versus Private Terminals – Information obtained through discussions with public port representatives and available port records indicate that the seven public riverports handled an estimated total of 3.9 million tons in the year 2002, of which 2.0 million were inbound and 1.9 million were outbound. Combined, the 3.9 million tons shipped through the public ports represent 3.7% of the total volume of waterborne freight in Kentucky, as summarized in Exhibit 3.6.

Exhibit 3.6
Waterborne Freight Shipments by Ownership and Direction (Tons)
2002

Direction	Public Riverports	Private Terminals	Total Waterborne
Inbound	2,023,421	38,789,608	40,813,029
Outbound	1,881,063	64,267,840	66,148,903
Total	3,904,484	103,057,448	106,961,932

Each of the public riverports experienced notable changes in the composition and volume of in- and outbound freight volumes. It is noted that some of the ports are currently experiencing management transition and were unable to provide specific tonnage volumes. In addition, these volumes include a rough estimate for the Port of Maysville.

3.3. Waterborne Freight Movement Value

The estimated value of waterborne freight through public ports and private terminals in Kentucky were based on average values per tonnages of waterborne freight by 2-digit STCC code. As shown in Exhibit 3.7, average waterborne freight values are the lowest of the four modes, which reflects the low value to volume ratio characteristics of water transport (as discussed in more detail in the following section).

Exhibit 3.7
Freight Value per Ton by Mode and Commodity

STCC	Description	Water Per Ton	Truck Per Ton	Rail Per Ton	Air Per Ton
1	Farm Products	$171	$485	$153	$3,408
8	Forest Products	62	44	81	312
9	Fresh Fish Or Marine Products	931	1,208	1,208	8,485
10	Metallic Ores	190	569	91	1,872
11	Coal	28	29	23	1,894
14	Nonmetallic Minerals	7	12	28	769
19	Ordnance Or Accessories	1,499	3,019	1,944	93,919
20	Food Or Kindred Products	277	1,162	432	7,348
21	Tobacco Products	2,778	15,509	3,603	15,509
22	Textile Mill Products	1,142	8,109	1,481	36,901
23	Apparel Or Related Products	1,142	8,109	1,481	36,901
24	Lumber Or Wood Products	252	466	327	7,419
25	Furniture Or Fixtures	1,964	5,433	2,548	18,201
26	Pulp, Paper Or Allied Products	603	1,109	560	3,078
27	Printed Matter	1,408	2,951	1,826	24,136
28	Chemicals Or Allied Products	332	1,555	371	85,149
29	Petroleum Or Coal Products	171	266	188	17,059
30	Rubber Or Misc Plastics	752	2,564	976	17,231
31	Leather Or Leather Products	1,142	8,109	1,481	36,901
32	Clay, Concrete,Glass Or Stone	70	129	103	2,590
33	Primary Metal Products	333	1,063	584	2,544
34	Fabricated Metal Products	562	2,183	729	6,386
35	Machinery	5,329	8,354	6,912	45,344
36	Electrical Equipment	10	54	13	161,637
37	Transportation Equipment	4,595	7,418	5,960	155,920
38	Instrum, Photo Equip, Optical Eq	5,917	33,041	7,676	148,504
39	Misc Manufacturing Products	1,499	3,019	1,944	93,919
40	Waste Or Scrap Materials	135	236	145	15,167
41	Misc Freight Shipments	420	2,348	545	63,102
42	Shipping Containers	1,606	1,606	1,606	1,606
43	Mail Or Contract Traffic	420	2,348	545	63,102
44	Freight Forwarder Traffic	420	2,348	545	63,102
45	Shipper Association Traffic	420	2,348	545	63,102
46	Freight All Kinds (FAK)	420	2,348	545	63,102
47	Small Packaged Freight Shipments	420	2,348	545	63,102
48	Hazardous Waste	135	236	145	15,167
49	Hazardous Materials	978	2,571	1,269	17,920
50	Secondary Traffic	420	2,348	545	63,101
99	Unknown	154	1,358	315	71,366
	Average	*1,003*	*3,549*	*1,283*	*40,930*

SOURCE: Transearch; Reebie Associates, adjusted to year 2003 values

Based on the these values and the corresponding tonnage volumes, the value of waterborne freight in Kentucky totals $6.5 billion, of which an estimated $0.6 billion (9.8%) moves through public ports versus $5.9 billion (90.2%) through private terminals. These values are summarized by major commodity group in Exhibit 3.8.

Exhibit 3.8
Freight Value by Facility Ownership and Commodity

STCC	Commodity	Public Riverports	Private Terminals	Total Waterborne
28	Chemical Products	$120,667,060	$552,114,340	$672,781,400
11	Coal	24,974,096	1,411,342,604	1,436,316,700
14	Earth Materials (Non-metallic)	3,443,517	252,993,183	256,436,700
1,9,20,21	Food & Farm Products	119,163,100	472,740,000	591,903,100
29	Petroleum Products	82,802,646	955,501,254	1,038,303,900
32	Clay, Concr., Glass or Stone	18,340,000	101,854,900	120,194,900
10	Metallic Ores	11,319,250	321,121,450	332,440,700
26,33,34,40,41	Other	258,977,488	1,841,756,812	2,100,734,300
	Total Value	$639,687,157	$5,909,424,543	$6,549,111,700

Comparison between the value and volume of tonnage handled at public riverports versus private terminals indicates that public terminals accommodate relatively higher valued freight than private terminals. This reflects the need for a range of equipment to handle the on- and off-loading of a diverse range of commodity types.

Chapter 4: Characteristics of Water Freight Movements

Freight movements by water involve several physical and operational issues, as well as public investment and financial support issues.

4.1. Movement Issues

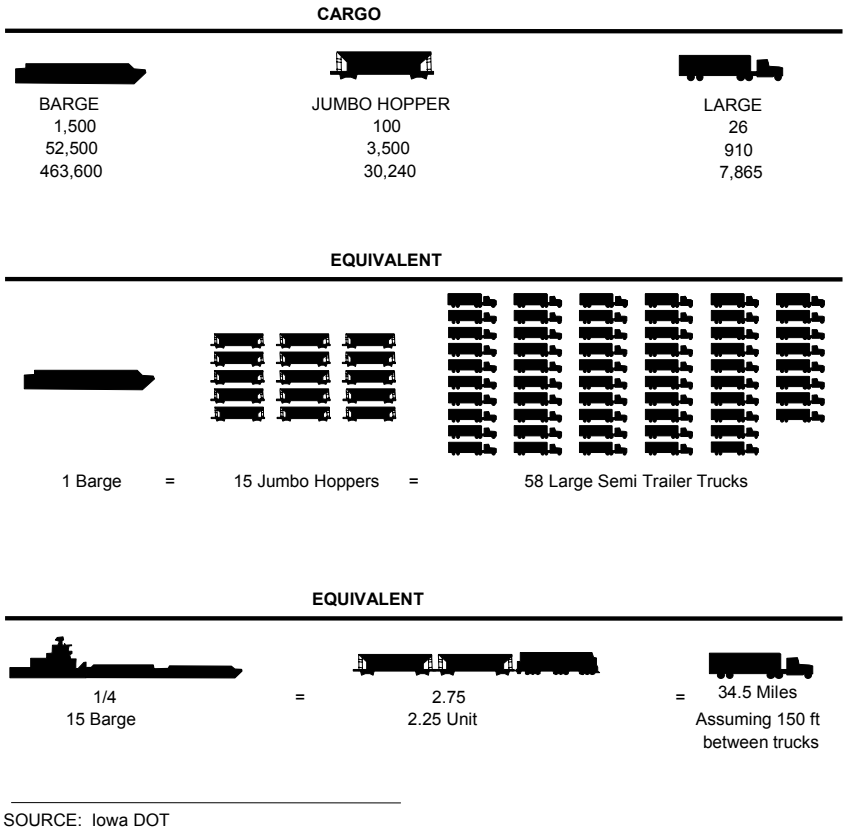
Freight movements by water depend on several shipment factors, require intermodal connections, and are affected by terminal ownership and purpose. These issues are summarized below, since they affect business investment and economic development.

Factors Affecting Port Use – Several physical factors related to the shipment affect the decision to use waterborne transportation, these include:

- *Shipment Distance* – Typically long distance trips over 450 miles
- *Shipment Size* – The larger the shipment (i.e., over 1,500 tons), the greater the attractiveness of water transport
- *Shipment Direction* – For Kentucky, waterborne shipments are limited to those along the north-south directions of the Mississippi river system and their intermodal connections.
- Shipment Cost – Total transport cost including secondary modes (i.e., truck) and intermodal connections (i.e., barge to truck and any storage).
- *Commodity Type* – Typically non-perishable bulk, break-bulk or large equipment with a high weight/large volume-to-value ratio.
- *Low time sensitivity* – Shipments span weeks instead of days or hours via other modes. Therefore, water transport does not directly operate within the just-in-time freight services sector. However, water transport can support just-in-time needs through at-port commodity warehousing.

Commodities that meet these criteria are shipped at a significantly lower cost per ton. The unit costs per ton multiplied by the large shipment volumes result in huge cost savings – even compared to rail. For example, it takes 15 jumbo rail car hoppers or 58 large truck semi-trailers to carry the same amount as a single 1,500 ton barge, as shown below in Exhibit 4.1.

Exhibit 4.1
Freight Value by Facility Ownership and Commodity



SOURCE: Iowa DOT

Intermodal Connectors – Riverports operate as intermodal transportation facilities that primarily transfer cargo from rail or truck to barges, or vice versa. As a result, the entire port and all of its facilities, equipment and operations are engaged in the intermodal handling of commodities and freight. For this reason, public riverports – and all of their intermodal components – should be viewed as links in the overall transportation system. During this study, concerns were raised regarding where the weakest links were, their severity and how to address, prioritize and fund proposed improvements.

River Terminal Purpose and Ownership – The purpose of a river terminal ranges from general to specialized. A special purpose terminal is designed to accommodate a single commodity movement in a highly efficient manner, such as an on-loading coal or grain facility, and often does not have the means to accommodate other types of barge movements (e.g., off-loading steel). Conversely, a general purpose terminal is often equipped to accommodate various commodity types, but does not operate as efficiently as a special purpose terminal.

Terminal ownership also affects a terminal's operation. Privately owned terminals typically strive to reduce costs, and increase sales and profits. Publicly owned terminals are often developed with the intent of attracting industry or enabling existing firms to operate more efficiently. Therefore,

handling charges and the very type of commodities handled by a privately-owned terminal often differ significantly from that of a publicly-owned terminal.

The specialized nature of private terminals results in their accommodation of a vast majority of Kentucky's waterborne freight tonnage. Conversely, the broader economic development mission of public ports leads to a more diverse nature of port facilities. In Kentucky's case, this results in the accommodation of relatively higher valued freight than at public terminals. This arises because smaller, more sporadic shipments (e.g., steel rods from Russia) require intermodal connections now, but they may not be needed by the same firm next year.

Comparison of the tonnage movements through the public ports versus movements through the private terminals indicate that while public ports only accommodate 3.7% of tonnage handled in Kentucky the tonnage accounts for 9.8% of the total value of waterborne freight, as shown previously in Exhibits 3.6 and 3.8.

4.2. Business Investment and Economic Development

To ensure business investment and overall economic development requires government investment and continued support of transportation infrastructure. While some businesses can, should, and will construct, maintain and operate specialized port terminals, many other businesses will not. Businesses that experience cost savings due to the economies of scale from owning and operating private specialized facilities typically do so. Private ports are typically built to handle large volumes of a single commodity type and usually use specialized loading and conveying equipment not typically found at public ports.

However, to attract smaller business or support larger businesses with limited water transportation needs, regions need to provide efficient public port access to their waterways. Such businesses look for and continue to depend on locations that provide general purpose public terminals and intermodal support facilities. In some situations, private terminals can be built at a public port and serve the same purpose. Doing so enables economies of scale by using the same deep water channel and road system, for example.

Like roads and airports, public ports play an essential, but not independent role in retaining existing businesses and/or attracting new investment. By providing access to the lowest cost form of freight transportation, public ports help industries that produce or use basic low-value, high-bulk commodities. Such businesses often provide the economic foundation from which a community's industry grows.

Chapter 5: Port Economic Impacts

The quantification of economic impacts associated with the operation of public ports, the use of public ports by businesses in Kentucky and the associated multiplier impacts follows the methodology outlined in the Port Economic Impact Kit, produced by the USDOT, Maritime Administration. This approach is outlined below, followed by the impact findings in the original 1999 report, and those estimated for the year 2003.

5.1. Methodology

Economic Impact Types – Impacts comprise direct port industry and indirect port user expenditures and jobs. These impacts are entered into the Regional Input-Output Multiplier System, RIMS-II, developed by the Bureau of Economic Analysis (BEA) at the U.S. Department of Commerce, to estimate multiplier and total impacts. The multipliers are specific to the Commonwealth of Kentucky.

- *Direct Port Industry Impacts* – The primary expenditures and jobs associated with businesses that move freight through ports and service tugs and barges.

- *Indirect Port User Impacts* – The primary expenditures and jobs associated with businesses in KY that ship or receive freight via ports. Only that portion of individual businesses tied to the inputs or outputs moving via the ports are considered.

- *Multiplier Impacts* – The secondary intermediate and induced impacts associated with direct port and indirect business user activity. The secondary impact measures the intermediate and induced effect associated with primary expenditures. The secondary impacts are derived mathematically using the RIMS-II multipliers, as described above. The intermediate effect reflects expenditures for labor and materials by supporting industries and services, and the induced effect reflects expenditures created by the household incomes of the labor force retained to meet the primary and other secondary demand.

  The BEA provides the coefficients or "multipliers" by industry sector. The magnitude of the RIMS coefficients varies in relation to the economic base and size of the economy in the defined region of interest. For this study, the set of multipliers represented aggregate coefficients for Kentucky. The list also includes the final demand multipliers for Output or "Economic Activity" as well as for earnings and jobs. These are also applied to the primary impact estimates to determine the secondary and/or total impact dollar values and jobs.

  To further clarify, the model inputs are the "direct port industry impacts" and/or the "indirect port user impacts," both defined above. These final demand expenditures are applied to the economic activity, earnings and jobs multipliers to estimate total impacts (outputs), in terms of economic activity, earnings and jobs. These total impacts include the secondary impacts associated with suppliers and the responding of income, described above.

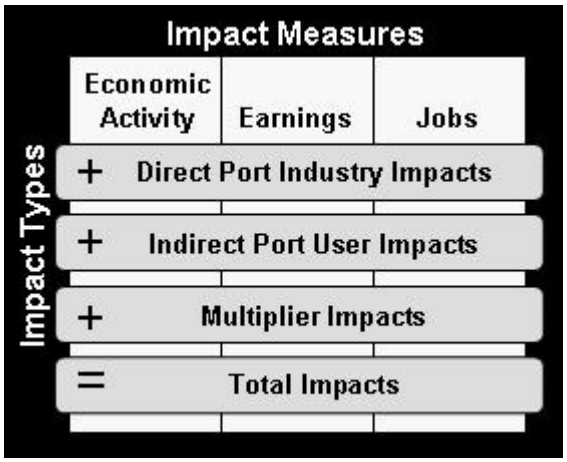
Three Measures of Economic Impact – Port impacts are measured in three ways:

- *Economic Activity* – The value of the primary direct port and indirect business user expenditures, plus the secondary effect. Secondary effects, as described previously, include the sum of all of the intermediate goods and services needed to produce the port user services, plus the induced impacts of increased household consumption.

- *Earnings* – The wages and salaries, other labor income, and proprietors' income paid to persons who deliver primary and secondary output and services.

- *Jobs* – The number of employees who provide port and business user services, plus the share of those are employed in sectors that support these port and business user industries.

Exhibit 5.1
Impact Measures and Types



5.2. Year 1997 Findings: 1999 Water Transportation Study

The economic impacts associated with public ports include the direct jobs and expenditures associated with moving cargo through the port as well as the indirect impacts of businesses that ship and receive cargo. A 1999 study conduced by the Kentucky Transportation Cabinet found that the public port activity in 1997 generated direct impacts (including multiplier effects) of $82.7 million in economic activity with $18.7 million paid in earnings to 685 full-time-equivalent (FTE) jobs.

A general estimate was also made of the indirect impacts associated with the business that use the public ports to ship/receive freight. Limited to discussions with port operators and some business users, it was estimated that the business users in Kentucky generated impacts (including multiplier effects) of $732.0 million for a total impact of $814.7 million, as shown below in Exhibit 5.2.

Exhibit 5.2
Impact Totals - 1997

Impact Type[1]	Economic Activity ($Millions)	Earnings ($Millions)	Jobs
Direct Port Industry	$82.7	$18.1	665
Indirect Business User	$732.0	$183.1	4,568
Total	$814.7	$201.2	5,233

[1]Includes multiplier effect

5.3. Year 2002 Findings

The impact findings estimated in this report for the year 2002 were limited to those associated with the Direct Port Industry (including the multiplier effect). As seen in Exhibit 5.3, these impacts total $86.9 million in economic activity, of which $18.3 million was paid to 600 FTE jobs. These include an estimated 231 jobs at the seven (7) public ports and 369 secondary jobs associated with the firms that supply the port with materials and services. The 231 jobs at the ports are an estimate based on the previous study, the change in tonnage volumes between the original and current study and discussions with port officials during the conduct of this study. The 361 jobs reflect an estimate generated by applying the RIMS-II multipliers. These impact estimates were used to estimate the indirect tax impacts in the next section.

Given the time and resource constraints, it was not possible to visit each of the public ports, and gather the necessary information to assess the Indirect Business User impacts associated with public ports. Nonetheless, information was obtained on individual business employment and sales for all manufacturing industries, which would facilitate a significantly more robust estimate of the business user impacts than was possible in the previous study. To do so would require port visits and interviews with port managers, business leaders and major shippers. The follow-up port survey work would enable completion of the following impact table for the year 2002.

Exhibit 5.3
Impact Totals - 2002

	Economic Activity ($Millions)	Earnings ($Millions)	Jobs
Direct Port Industry			
Port Operations	$45.8	$7.4	231
Multiplier	41.1	10.9	369
Subtotal	$86.9	$18.3	600
Indirect Business User			
Business Operations	Not available	Not available	Not available
Multiplier	Not available	Not available	Not available
Subtotal	Not available	Not available	Not available
Total Impacts	Not available	Not available	Not available

5.4. Summary of Port Economic Impacts

The businesses that rely on public riverports to ship/receive cargo generate much greater impacts than the port operations. Without public ports one of three things will happen to these business-users. They will either:

1. Build private terminals, or
2. Shift transport to alternative mode (road, rail), or
3. Close business and/or move out of state.

Given the limited time and resources for this Technical Summary, it is not possible to provide any accurate estimates on the magnitude of each of these decisions made by businesses in Kentucky in recent years.

Each business will react differently. To cover the costs of private terminal construction, maintenance, and operation typically requires large volumes. Those firms with large volumes that build private terminals often enjoy significant cost savings and are inclined to do so. For others with lower volumes, the expense is too great. Grain producers, for example, would probably switch transport modes to rail or truck, since they cannot physically move their fields. Shifts to truck transport result in heavier truck traffic on the roads, since replacing a single barge requires approximately 58 large semi-trailer trucks.

Further study is needed to better understand the current dependency of existing firms on the public riverports, requiring on-site visits and interviews with the port managers and major business users. Similarly, on-site visits to new port area(s) are required to understand the potential economic impacts of building a new port versus using an existing port.

Chapter 6: Tax Impacts of Kentucky Public Riverports

Public riverports contribute to a state's economy in many ways including expanding state and local tax bases. In Kentucky, public riverports contribute the tax coffers through taxation of property used in waterway operations, and through sales and income taxes associated with financial transactions related to port expenditures. Waterway operation taxes include a property-related tax on tangible property of Kentucky residents or Common Carrier tax or Foreign Barge Tax (FBT). The various ways that the rivers and their ports contribute to the tax base of state and local governments are discussed below.

6.1. Property-Related Tax Impacts

The waterway industry provides tax revenues through the property taxes paid on tangible property for domestic waterway shippers, a Common Carrier tax, or through a Foreign Barge Tax for shippers located outside the state.

The assessment, allocation and value determination of the FBT, as laid out in Kentucky Revised Statues 136.181, is determined as follows:

(1) The proportion of the value of the property which the length of the lines or route operated in this state bears to the total length of lines or route operated in this state and elsewhere, shall be considered in fixing the value of the property for taxation in this state. Any other reasonable evidence of value shall be considered in fixing the value, but such evidence must be prescribed by cabinet regulations;

(2) After ascertaining the portion of the system valuation of such property attributable to this state, the Revenue Cabinet shall allocate the value of property among the counties, cities, towns and other taxing districts. The proportion which the length of line or route operated in that jurisdiction or taxing district bears to the total length of lines or route operated in the state shall be considered in this allocation and such other reasonable evidence of value as the Revenue Cabinet may by regulations prescribe.

The tax collection processes for non-resident watercraft and commercial barge lines are illustrated in Exhibit 6.1 and Exhibit 6.2, respectively.

Interestingly, tangible property taxes for personal property operated in a Foreign Trade Zone are significantly lower or even eliminated for most classes of property. For example, the state and local tax rates for motor vehicles are 0.45 and 0.23061 per $100 in value, respectively. However, if the motor vehicles are operated in a foreign trade zone, the rates fall to 0.01 per $100 in value for the state and the local tax is eliminated. Similarly, the state rate on manufacturing machinery is reduced from a normal of 0.15 to 0.01 if that machinery is operated in a foreign trade zone. Non-resident barge lines do not get any tax credit for the portion of their route which may be in a foreign trade zone. Expansion of the FTZ policy to barge lines could potentially result in an increased usage of the riverports and increase development opportunities.

Exhibit 6.1

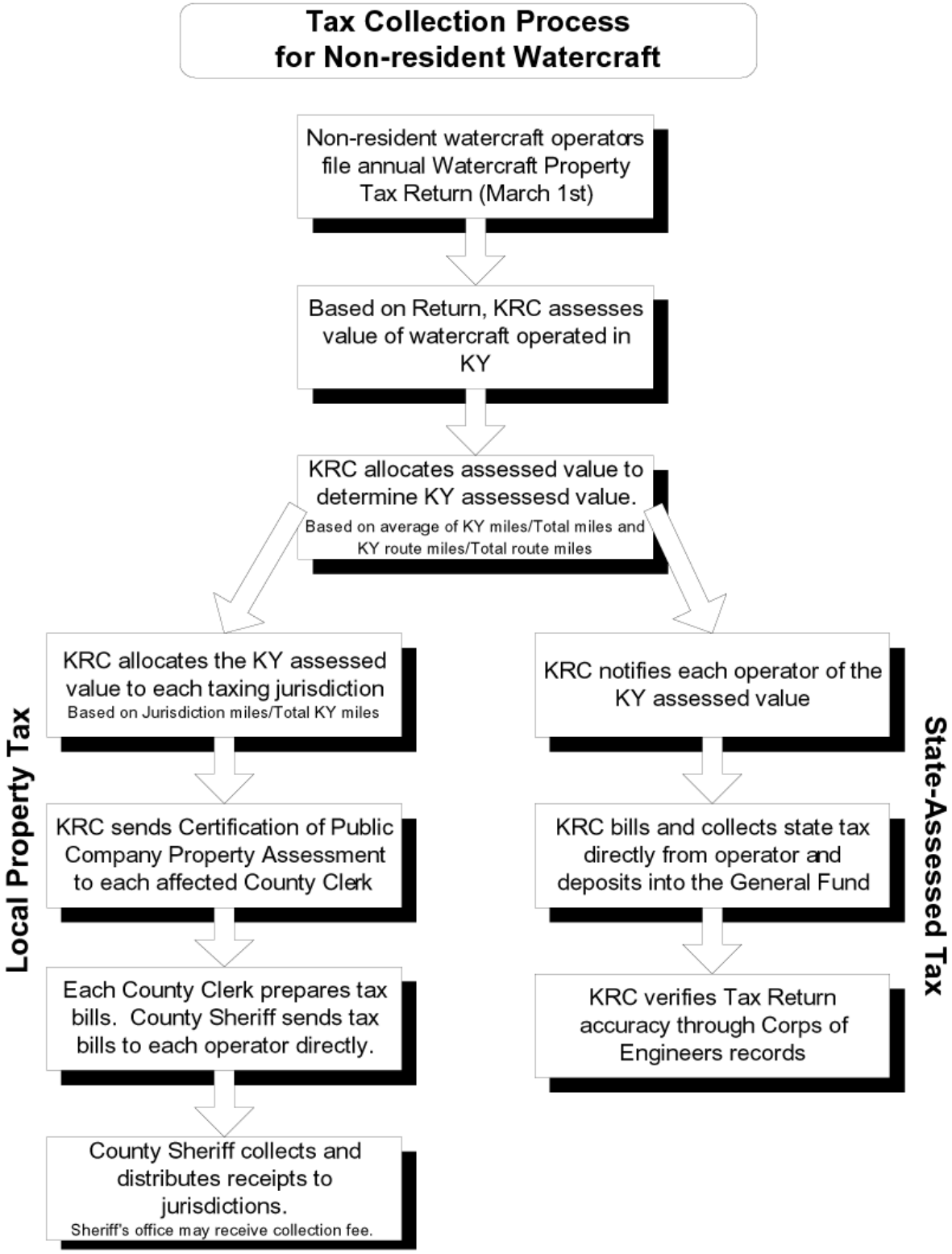
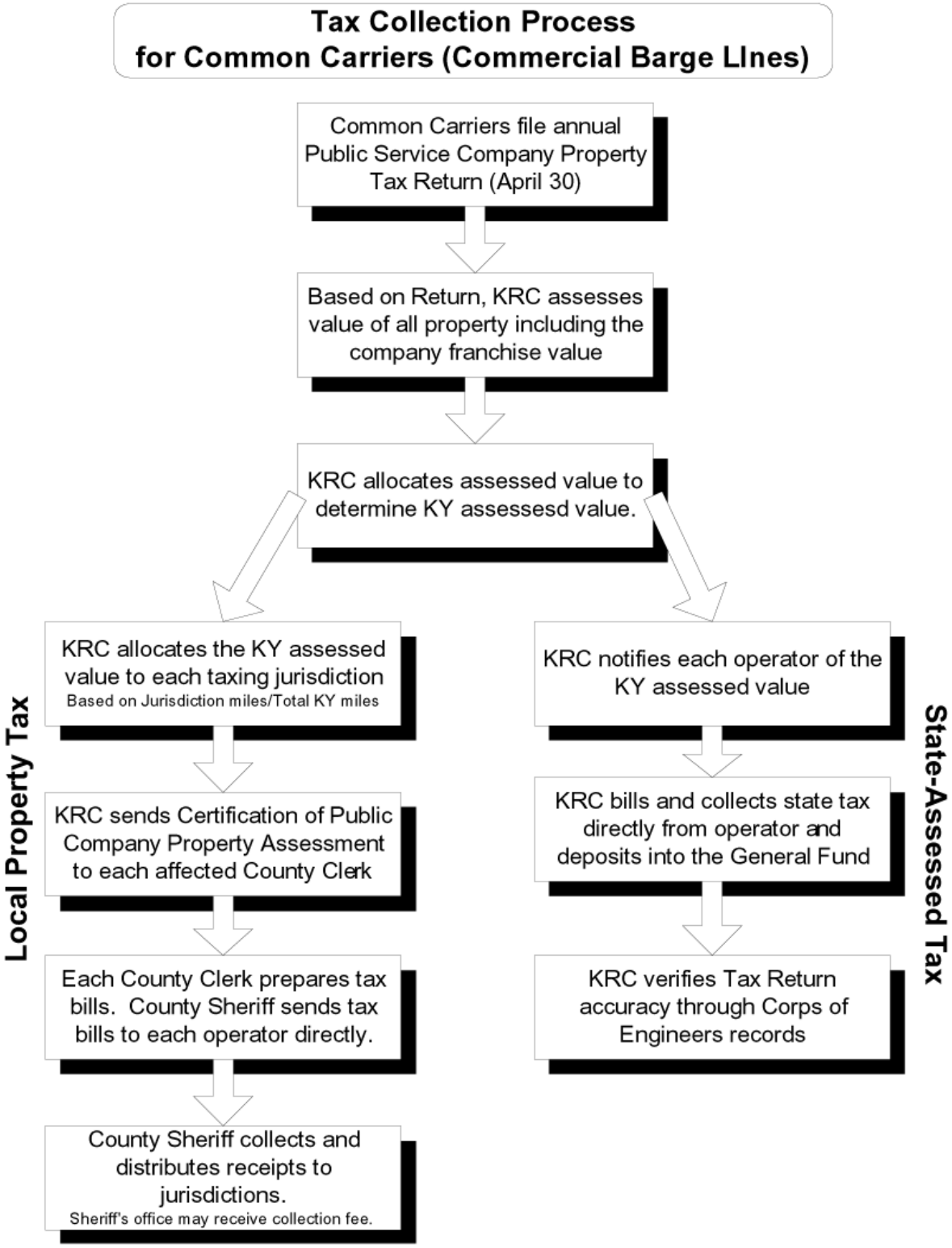

Tax Collection Process
for Non-resident Watercraft
Non-resident watercraft operators file annual Watercraft Property Tax Return (March 1st)
Based on Return, KRC assesses value of watercraft operated in KY
KRC allocates assessed value to determine KY assessesd value.
Based on average of KY miles/Total miles and KY route miles/Total route miles
Local Property Tax
KRC allocates the KY assessed value to each taxing jurisdiction
Based on Jurisdiction miles/Total KY miles
KRC sends Certification of Public Company Property Assessment to each affected County Clerk
Each County Clerk prepares tax bills. County Sheriff sends tax bills to each operator directly.
County Sheriff collects and distributes receipts to jurisdictions.
Sheriff's office may receive collection fee.
State-Assessed Tax
KRC notifies each operator of the KY assessed value
KRC bills and collects state tax directly from operator and deposits into the General Fund
KRC verifies Tax Return accuracy through Corps of Engineers records

Exhibit *6.2*


Tax Collection Process
for Common Carriers (Commercial Barge LInes)
Common Carriers file annual Public Service Company Property Tax Return (April 30)
Based on Return, KRC assesses value of all property including the company franchise value
KRC allocates assessed value to determine KY assessesd value.
Local Property Tax
KRC allocates the KY assessed value to each taxing jurisdiction
Based on Jurisdiction miles/Total KY miles
KRC sends Certification of Public Company Property Assessment to each affected County Clerk
Each County Clerk prepares tax bills. County Sheriff sends tax bills to each operator directly.
County Sheriff collects and distributes receipts to jurisdictions.
Sheriff's office may receive collection fee.
State-Assessed Tax
KRC notifies each operator of the KY assessed value
KRC bills and collects state tax directly from operator and deposits into the General Fund
KRC verifies Tax Return accuracy through Corps of Engineers records

The Kentucky Revenue Cabinet reported that property taxes levied on common carriers and non-resident water transportation businesses total approximately $6.0 million, with $2.0 million to the State General Fund, and $4.0 million to local city and/or county operating funds in 2003, as seen in Exhibit 6.3. In addition, property taxes are imposed on real estate and other assets belonging to resident Kentucky water transportation operators which have not yet been quantified. It should be noted that these funds go directly to the general fund of the taxing jurisdictions. Currently there are no legislated allocations to the riverports.

Exhibit 6.3
Property-Related Tax Impacts ($Million)
2002

	Taxing Entity		
Property-Related Taxes[1]	Local	State	Total
Common Carrier	$1.6	$0.8	$2.4
Foreign Barge	2.4	1.2	3.6
Total	**$4.0**	**$2.0**	**$6.0**

[1]Kentucky Transportation Cabinet

6.2. Public Port Operation Tax Impacts

Kentucky riverports also give rise to other tax impacts for the state and local governments. These taxes accrue as a result of the income impact of the ports' operations. As the activities at the ports create and support jobs throughout the state, the employees pay taxes on their earnings. For the purpose of the current study, the estimation of public port operation tax impacts is limited to the sales and income taxes. It should be noted, however, that this provides a conservative estimate of the actual magnitude of impacts. For example, the employees working at jobs supported by the riverports also pay property taxes, motor fuel taxes, a variety of state and local user fees and a host of other levies.

Based on the estimated earnings impact of the public riverports, the indirect sales and income tax impacts are estimated to be $1.2 million annually. As is shown in Exhibit 6.4, the local impact is $0.2 million and the state benefit is $1.0 million. It is important to note that these estimates are based on impact measures that exclude all private terminal operations and business-user impacts.

Exhibit 6.4
Estimated Public Port Operation Tax Impacts

Tax Type	Taxing Entity Local	State	Total
Public Port Operations[1]			
Sales	$0.0	$0.3	$0.3
Income	0.2	0.7	0.9
Total	**$0.2**	**$1.0**	**$1.2**

[1]Excludes private terminal and business user-related impacts
[2]Associated with waterborne movements along Kentucky's navigable waterways

The assumptions used in the estimation of the tax impacts are displayed in Exhibit 6.5.

The estimated tax impacts illustrate the potential of the state's riverports to be a significant contributing factor to the state's economy and tax coffers. In order to fully understand the importance of the riverports, a more detailed analysis that includes an in-depth analysis of the firms doing business with the ports is required and recommended.

However, the initial estimates presented in this report support the argument that consideration should be given to increased public funding for the riverports. Currently, all of the direct tax revenue attributable to the ports go directly into the general funds of the various taxing jurisdiction without any legislated allocation back to the riverports.

Exhibit 6.5
Assumptions used in Estimation of Tax Impacts

Sales Tax

- 45% of income spent on sales taxable goods and services
- 20% incomes goes to payment of other taxes and savings
- 20% of income spent outside the state
- 6% state sales tax rate

Income Tax

- Local tax rate is average of 1.3%
- Effective state rate of 4.5%
- 85% of income subject to income tax

Chapter 7: Issues and Funding

The public port funding issues addressed in the study are summarized in this section. Concerned with the required physical improvements and the limited financial funding options currently available, the section concludes with a description of various national, regional and local funding options that could help address public riverport funding needs.

7.1. Public Port Issues

Based on comments received by representatives of the public riverports, the central port issues identified in the study include:

- Public riverports are key intermodal facilities that help recruit businesses reliant on water transportation. Bill Howard, Executive Director of the Henderson County Riverport Authority, stated "the public riverports of Kentucky have the potential to have the strongest economic industrial development impact of any source Kentucky has and it is a natural resource."

- The current economic impacts that accrue to Kentucky go far beyond the $86.9 million in expenditures and 600 jobs associated with public riverport services. Rather, the major impact arises from the businesses that ship/receive the cargo, for which little data is available. It is the position of the Kentucky Association of Riverports that a more detailed analysis of the economic impact of Kentucky's public ports be conducted and documented.

- Kentucky's public riverport infrastructure is aging and becoming technologically obsolete. The *Kentucky Water Transportation Corridors Public Riverport Development and Intermodal Access Study* completed in 1999 identified a number of capital needs for the public riverports. Many of these needs remain unfulfilled and a priority. The greatest need identified by the riverports is to repair and replace piers, wharfs, loading/unloading berths, equipment, and storage areas.

- To remain competitive for new industrial development, Kentucky must upgrade and promote their transportation infrastructure and intermodal facilities – especially public riverports. Bill Howard recommended new legislation to establish sources of low interest loans or matching grants to support public riverport development and expansion.

- To promote safe, reliable access to riverports and other Kentucky intermodal facilities, additional funding needs to be funneled towards Kentucky's transportation system. In particular, improved rail and highway access. According to the Kentucky Association of Riverports' (KAR) Position Paper titled *Landside Access*, landside access is considered the Associations' second highest priority behind only waterfront infrastructure, discussed in the next bullet. KAR would prefer highway and rail access to Kentucky's public ports be a higher priority in the Kentucky Transportation Cabinet's planning process.

- With these issues in mind, the KAR wishes to explore funding assistance opportunities through changes in state legislation. More specifically, KAR recommend an infrastructure improvement funding program be established to improve and update terminal facilities. Other alternative funding sources are described below in Section 7.3.

- State support is also needed to help leverage U.S. Army Corp of Engineers' projects such as upgraded locks and dams that directly impact Kentucky's waterway system. The U.S. Army Corp of Engineers currently is building Olmsted Lock and Dam to replace Locks and Dams 52 and 53, adding a second 1200-foot lock at McAlpine Lock and Dam, and continues to conduct studies to determine additional needs. In addition, studies such as the Ohio River Ecosystem Restoration Program have developed a long term program to improve the ecosystem. According the Army Corp of Engineers', the following recommendations have been made: restore 25,000 acres of bottomland hardwood forests, improve 1,250 acres of aquatic habitat, restore and protect 40 islands, improve 100 miles of shoreline and riparian habitat and restore 25,000 acres of wetlands. Currently, this program is unfunded.

Given these issues, limited funding and the community requests for additional public ports, the question arises of what to do, where and how to invest and how to fund it. The following subsections outline a strategy for addressing public riverport needs and other potential funding sources.

7.2. Funding Needs

Further study is needed to adequately identify and evaluate the funding needs for Kentucky's riverports. To determine how and where to invest State funds requires an in-depth assessment of each public riverport, its facilities, its service area needs, the area's overall economy, the current dependent business user impacts and alternative ports and/or transport modes. The envisioned study purpose is to collect, assess and present findings that address the above objectives in a concise, straightforward manner that enables decision makers to address and prioritize port funding needs and consequences.

7.3. Alternative Funding Sources for Kentucky's Riverports

Returning a portion of the Common Carrier tax and Foreign Barge Tax to the riverports should be considered as a future funding mechanism for the ports; however, it is not the only source to be explored. Other potential sources include, but are not limited to state funding options, Economic Development Administration (EDA) grant funding, various brownfield development grant programs, Appalachian Regional Commission (ARC) funds, Delta Regional Commission funds, and Federal transportation funding options. Following is a discussion of each of these alternatives funding sources.

State Funding Options

In addition to the potential federal sources of funding, local tax initiatives and Kentucky Economic Development Finance Authority funds should also be considered. For example, local governments are increasingly passing local option sales tax earmarked for specific uses in the

community. The riverports should evaluate their role in the local economies and use this information to encourage local policymakers to consider this possibility. In addition, the state, in KRS 65.580, set the stage for local financing of riverports via tangible property tax levies. The legislation allows for the levies to be used for the costs of administration, operation, maintenance and development and for the lease, purchase, option or holding of property necessary or proper for riverport development.

Another important recent change in state legislation eased the requirements for riverports receiving Kentucky Economic Development Finance Authority assistance. KRS 154.20-060 states that priority for a riverport facility shall give priority to the indirect employment maintained or created as opposed to direct employment, as required for other economic development funding applicants.

EDA Grants[1]

The Economic Development Administration, a Federally funded program, offers numerous programs to help economically distressed communities. The funds available through these programs are aimed at projects and/or planning efforts to help boost employment and income levels in communities that suffer from higher than average unemployment and poverty rates. Many of the communities in Kentucky meet these criteria, including those communities with public ports. One EDA program of particular relevance to the riverport communities in Kentucky is the Public Works Program.

The goal of the Public Works Program is to empower distressed communities to revitalize, expand and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies and generate or retain long-term private sector jobs and investment. These goals closely mirror the objectives of Kentucky's ports.

Eligible projects include water and sewer facilities, industrial access roads, rail spurs, port improvements and skill-training facilities. These investments are meant to support a variety of specific development strategies including, but not limited to, technology-led development, aquaculture facilities, diversification of natural resources dependent economies, cluster-based development export programs and business/industrial development.

In addition to the public works program, the EDA offers other grant and loan programs that could provide potential funding to Kentucky's public riverports. These include the Economic Adjustment program, short term planning grants, and trade adjustment assistance program. These programs are focused on planning activities and generally involve three types of grant funding – strategic planning, project implementation and revolving loan funds.

Unfortunately, EDA funds tend to provide one-time funding assistance as opposed to a steady stream of income (such as that which could be realized from earmarking a portion of water transportation-related tax receipts). Therefore, EDA funds should not be viewed as an

[1] For more information visit www.eda.gov

alternative for on-going finance. Nevertheless, these funding options can provide much needed seed money for individual project financing and should be explored more fully.

Brownfields Funding[2]

The U.S. Environmental Protection Agency (EPA) has launched the Brownfields Economic Development Initiative to empower states and communities to work together to prevent, assess, safely clean-up, and sustainably reuse brownfields. The program provides funding via three programs for qualified brownfield areas. If the land surrounding any of the public ports in Kentucky, that port may qualify for funding under one of these three programs. The two programs most beneficial to the ports include:

- Assessment demonstration pilot programs – Each funded up to $250,000 over two years to assess brownfields sites and to test clean-up and redevelopment models; and
- Brownfields revolving loan fund (BCRLF) – Each funded up to $1,000,000 over five years to provide financial assistance for the environmental cleanup of brownfileds.

Again, the land occupied by the port must meet the criteria of a brownfield which is defined as a site, or portion thereof, that has actual or perceived contamination and an active potential for redevelopment or reuse. Similar to EDA funding, these monies would not replace a recurring revenue stream, but rather provide supplementary funds for specific project development and implementation.

Appalachian Regional Commission (ARC) Funding[3]

Each year Congress appropriates funds, which ARC allocates among its member states, including Kentucky. It is important to note that only one port in Kentucky, Greenup-Boyd County in Eastern Kentucky, would be eligible for ARC funding.

The Appalachian governors submit to ARC their state spending plans for the year, which include lists of projects they recommend for funding. The spending plans are reviewed and approved at a meeting of all the governors and the federal co-chair.

The next step is approval of individual projects by the ARC federal co-chair. After the states submit project applications to ARC, each project is reviewed by ARC program analysts. The process is completed when the federal co-chair reviews a project and formally approves it. The public riverports are eligible to receive Kentucky's portion of the state's ARC funding provided it can be shown that the recommended projects would benefit the counties included in the ARC region. In addition to the normal state level allocation, addition sources of ARC monies are available through the Distressed Counties Program, Business Development Revolving Loan Fund and the Transportation Program. Following is a summary of each of these programs.

[2] For more information visit www.eda.gov

[3] For more information visit www.arc.gov

Distressed Counties Program

ARC has provided special funds for the Region's poorest counties since 1983. Currently 91 counties, over half of which are in Kentucky, qualify for distressed county status on the basis of low per capita income and high rates of poverty and unemployment.

In the past, the distressed county program focused mainly on providing badly needed public facilities, especially systems to furnish clean drinking water and sanitary waste disposal, and human resource projects such as literacy training. Under pre-1983 guidelines, most of these counties were too poor to qualify for federal aid for these facilities. Over the past several years, the program has been broadened to include upgrading technology and communication infrastructure in the counties.

Business Development Revolving Loan Fund

A Business Development Revolving Loan Fund is a pool of money used by an eligible grantee for the purpose of making loans to create and/or save jobs. As loans are repaid by the borrowers, the money is returned to the RLF Fund to make other loans. In that manner, the RLF Fund becomes an ongoing or "revolving" financial tool. The primary objective of the ARC RLF program is saving and creating private-sector jobs. Projects are expected to support specific types of economic activities planned or underway in the area. Depending on local needs and conditions, these may include one or more of the following:

1. Small business development, including the start-up or expansion of locally owned businesses as measured by job creation,
2. Existing business and saving jobs,
3. Redevelopment of blighted land and vacant facilities for productive use,
4. Modernization and rehabilitation of existing industrial or manufacturing facilities,
5. Support for the use of new technologies, growth industries, high-tech firms and/or
6. Development of businesses owned and operated by minorities, women, and members of other economically disadvantaged groups.

Projects aimed at attracting or expanding businesses located at the riverports could potentially qualify for assistance under this program.

Transportation Programs

ARC provides technical and financial support for a comprehensive assortment of transportation activities. The Commission plays a key role in developing the Region's highway network through the Appalachian Development and Access Road programs, and supports planning, improvement, and development activities in many other transportation modes including inland waterways and intermodal transportation. ARC funds are used to help improve and coordinate the Region's comprehensive intermodal transportation network, including aviation, local transit, railways, and inland waterways, so that it can actively support the businesses, communities, and people of Appalachia. Currently there is a push within the agency to explore the economic development opportunities arising from better use of intermodal transportation facilities

throughout the region. Efforts should be made to focus on the state's share of ARC funding for the Greenup-Boyd County riverport.

Delta Regional Commission (DRC) Funding

Modeled after the ARC, the Delta Regional Commission (DRC) would include almost all of Kentucky's public riverports since it covers an area from the Mississippi River to Owensboro. Although the commission receives little funds, congressional representation continue to lobby for funding under numerous federal spending bills for transportation, the U.S. Department of Agriculture, and Housing and Urban Development.

Similar to ARC, the DRC has prioritization factors for project approval. Specifically, the Authority must prioritize the use of federal funds in the following order, with transportation and basic public infrastructure projects receiving at least 50% of the appropriated funds:

1. Basic public infrastructure in distressed counties and isolated areas of distress
2. Transportation infrastructure for the purpose of facilitating economic development
3. Business development with emphasis on entrepreneurship
4. Job training or employment-related education, with emphasis on use of existing public educational institutions located in the region

The Authority may provide matching funds for other state and federal programs. However, there is a 90% cap on the federal share unless the project is in a distressed county.

These criteria bode well for the public riverports and the funding of DRC should be closely monitored and made a priority for legislative lobbying activities.

Federal Surface Transportation Spending Bill

The United States Department of Transportation is working toward reauthorization of the surface transportation programs. The Transportation Equity Act for the 21st Century was set to expire on September 30, 2003, but an extension was granted to allow legislators additional time to develop the next federal transportation bill. Perhaps the federal funding source that has the most potential in terms of providing future funding to the public riverports is the proposed federal transportation bill referred to as the Safe, Accountable, Flexible and Efficient Transportation Equity Act (SAFETEA) of 2003. Of special interest to water transportation and other freight interests, this bill would establish the Freight Transportation Gateways program.

The purpose of the Freight Gateways program is to institutionalize freight considerations and needs into the traditional transportation development process and increase investments for intermodal improvements at our major freight gateways and connectors. While no new funding is provided, this program broadens the flexibility of states and metropolitan planning organizations in meeting today's complex freight challenges through a combination of eligibility changes, innovative finance emphasis, and targeted investment.

The mechanism by which public riverports may qualify is by adding eligibility to Surface Transportation Program allowing a State to use its STP funds for publicly owned intermodal freight transportation projects that provide community and highway benefits that address

economic, congestion, security, safety, and environmental issues associated with freight transportation gateways. To the extent that the public riverports demonstrate that they meet these qualifications, they could become elgible to recieve STP funds.

7.4 Conclusions

Rivers are an invaluable component of Kentucky's transportation and economic system. They play a major role in economic development today and will do so into the future. In summary, waterway shipments through Kentucky's public and private riverports provide:

- Reliable, safe transport of commodities that travel long distances at an extremely low cost.
- An important location incentive to attract firms that ship or receive large volumes of freight by water.
- An alternative to highways and rail transport, thus reducing highway and rail construction needs and providing the potential for considerable infrastructure savings.

In order to continue to realize the benefits of waterway transportation, Kentucky must upgrade and promote public ports and related intermodal facilities. Representatives of the public riverports expressed concerns over the needed facility physical improvements and the limited financial funding options currently available.

This technical summary identifies several funding options; however, further study is needed to adequately identify and evaluate the funding needs for Kentucky's riverports. To determine how and where to invest State funds requires an in-depth assessment of each public riverport, its facilities, its service area needs, the area's overall economy, the current dependent business user impacts and alternative ports and/or transport modes.

To build support for public riverports and their funding needs, further study is also needed to better understand the current dependency of existing firms on the public riverports, requiring on-site visits and interviews with the port managers and major business users. Similarly, on-site visits to new port area(s) are required to understand the potential economic impacts of building a new port versus using an existing port.

Appendix A: References and Information/Data Sources

Kentucky Water Transportation Corridors Public Riverport Development and Intermodal Access Technical Memorandum. Final Draft Report prepared for the Kentucky Transportation Cabinet (KYTC) by Wilbur Smith Associates. February, 2000.

Kentucky Water Transportation Corridors Public Riverport Development and Intermodal Access Study. Prepared for the KYTC by Wilbur Smith Associates. December, 1999.

Reebie Associates' TRANSEARCH database, provided from and used with the permission of the KYTC.

U.S. Army Corps of Engineers, Louisville District. www.lrl.usace.army.mil/
Also provided navigable waters mileage by Jon Fleshman (502) 315-6770

Legislative Research Commission. *Issues Confronting the 2004 Kentucky General Assembly*, "Should the General Assembly reinstate funding for riverport authorities?" Page 55. http://www.lrc.state.ky.us/lrcpubs/IB212.pdf

Kentucky Association of Riverports, Inc. *Economic Impact Analysis, Establishment of Cabinet Oversight, Landside Access and Infrastructure Improvement Funding Program Position Papers*.

The American Waterways Operators. "Leaders in Safety and Environmental Protection." www.americanwaterways.com

Meeting, phone calls, and e-mail correspondence with Laura Taylor, Legislative Research Commission

Meetings, telephone contact, and correspondence with Kentucky Revenue Cabinet, Department of Property Valuation, including:

Tom Crawford	Commissioner Department of Property Valuation, KRC
Charlotte Quarles	Deputy Commissioner Department of Property Valuation, KRC
Brenda Major	Director, Division of State Valuation, Department of Property Valuation, KRC
Joe Esterle	Revenue Audit Supervisor, Public Service Branch Division of State Valuation Department of Property Valuation, KRC
Debra Eucker	Commissioner Department of Law, KRC

Meeting on September 9, 2003, with County Judge-ExecutiveWilliam Haynes, Meade County, and Don Martin, Public Affairs Representative, Meade County Riverport Authority.

Meetings and phone, fax and e-mail correspondence with public riverport operators. Contact information is as follows:

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